



DISPLAYS

FAQ

Q I've heard that LCD TVs have to upscale input from DVD players and broadcast TV. What does this mean and does it affect the quality?

A LCD screens have a fixed number of pixels, and this is known as the native resolution. A typical widescreen LCD TV has a native resolution of 1,280x768, for example. If you have an input that matches the screen's native resolution, the screen simply displays it pixel for pixel.

If you input a lower-resolution image, the picture won't fill the screen as it doesn't have enough pixels. For example, a DVD has a standard resolution of 720x576. Displaying this on an LCD TV without doing any processing would leave a border 280 pixels wide at each side and 96 pixels high at the top and bottom of the screen. The TV has to expand, or upscale, the image so that the picture fills the entire screen.

If the TV were simply to stretch the picture, the loss of detail would be clearly noticeable. Instead the TV has electronics that upscale the image and use clever guesswork to make up the missing pixels. This is known as interpolation. The result is a smoother picture that fills the display.

More expensive TVs generally have better processing and do a better job of it. With cheaper TVs you can quite often see flaws in the image and you won't get as good a picture.

The good news is that when High Definition (HD) TV becomes available, LCD TVs won't have to upscale the picture. HD TV will be broadcast at a resolution of 1,280x720 (called 720p). You may have noticed that the vertical resolution (720) is less than the TV's (768), so you'll get a barely noticeable border 24 pixels high at the top and bottom of the screen. The reason for this mismatch in picture sizes is that TV is broadcast with a ratio of 16:9 (16 pixels wide for every nine pixels deep), while LCDs are manufactured with a 16:10 ratio.

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▲ The resolution of a DVD is 720x576, so it has to be expanded to fit on an LCD TV's display

REVIEW 20" WIDESCREEN LCD

ACER
AL2032W

RATING ★★★★★

PRICE £462 inc VAT

SUPPLIER www.savastore.co.ukDETAILS www.acer.co.uk

There are surprisingly few widescreen displays on the market considering that a lot of content is delivered in that format, so it's good to see a new model hit the shelves. Acer's AL2032W is a 20" display that houses punchy speakers behind the mesh that runs along the bottom of the fascia.

While most widescreen displays have a resolution of 1,280x768, the AL2032W offers a massive resolution of 1,680x1,050. This gives you a very large desktop area and you can easily fit two applications side by side.

Using the DVI input produced bright, smooth and detailed images. The display was very sharp with almost perfectly smooth greyscales, while colours were vibrant and punchy, making it perfect for entertainment and clean enough for general computer use. There's also an analogue input for older computers.

Perhaps the most surprising thing about the AL2032W is that it has a full range of AV inputs, including SCART, S-video and composite. It doesn't have a TV tuner, but you could easily connect a DVD player or Freeview box and use the monitor's built-in speakers for sound.

The only problem is that with such a high resolution the AL2032W has a much tougher job of scaling up the low-resolution input to match the screen's native resolution (see FAQ, left).



Fortunately, it does a pretty good job of it, and you could happily watch movies or TV on it.

The composite video produced a reasonable picture, but sadly the SCART doesn't support RGB inputs. With no component input, the S-video input produces the best picture, with less interference.

The monitor's high resolution makes it perfect if you need two documents onscreen at once or you work with large spreadsheets. The AV inputs are a good addition, as you can switch to entertainment when your work's over, but it's a shame there's no component input. That said, the AL2032W is well priced for what it offers.

David McKinnon

✓ Great picture quality; high resolution

✗ No TV tuner; no component input

SPECIFICATIONS 1,680x1,050 native resolution, D-sub, DVI, S-video, composite video, SCART inputs. **Part code** AL2032W

HOTLIST 32" LCD MONITOR

ACER
AT3201W

RATING ★★★★★

PRICE £785 inc VAT

SUPPLIER www.digiuk.com, 01386 556633DETAILS www.acer.com

Acer's AT3201W is very cheap for a 32" LCD TV, especially one that's HD ready. It comes with a huge range of inputs, so you can connect almost any peripheral to it.

It looks good and its speakers are removable so you can use your own surround-sound set if you prefer. Picture quality is excellent with HD signals, but could be a little better with DVD and TV. For the price, though, it's a real bargain.



SPECIFICATIONS 32" image, 1,366x768 native resolution, D-sub, DVD (with HDCP), 2x SCART, composite, S-video, 3x phono and RF inputs, headphone out, 2x 10W speakers. **Part code** EV.M0307.001

HOTLIST DLP PROJECTOR

INFOCUS
X3

RATING ★★★★★

PRICE £752 inc VAT and delivery

SUPPLIER www.pixmania.co.ukDETAILS www.infocus.com/uk

Infocus's X3 is a keenly priced DLP projector with a resolution of 1,024x768.

Its 1,600 lumens brightness makes it ideal for doing presentations in dark rooms, while it's still small enough to carry around comfortably.

In whisper mode the brightness drops to 1,100 lumens, which is good enough for home use. With excellent image quality and a good price, the X3 is a capable business tool that can also turn its hand to occasional entertainment.



SPECIFICATIONS 0.55" DLP, 1,024x768 resolution, 1,600 lumens, 2,000:1 contrast ratio. **Part code** X2

REVIEW LCD TELEVISION

RELISYS RLT2000

RATING ★★★★★

PRICE £310 inc VAT

SUPPLIER www.savastore.com
DETAILS www.relisys.com

Relisys's RLT2000 is a budget LCD screen with a built-in analogue tuner. A 20" screen is really too small for any serious film or sport fanatic, but it's a useful size for a kitchen or bedroom.

The RLT2000's unfussy design and silver finish look smart, and most of the remote's functions are duplicated under the screen. The back has nearly every port you could wish for, with VGA, composite, component, S-video and SCART inputs.

TV picture quality is excellent. The built-in analogue tuner produces vibrant images with little noise and ghosting, even from a relatively poor aerial. We had rather more trouble when connecting a progressive-scan DVD player using the component inputs, as the display didn't support it.

Although the RLT2000 has a SCART input it doesn't support RGB, so SCART picture quality is poor. The only way to get a decent DVD image is to use an interlaced component or S-video signal. Once you have managed to get the DVD player to work, picture quality is superb, with very few artefacts. The panel also has very high contrast, vibrant colours and wide viewing angles, and the speakers are very loud for their size, if light on bass.

The TV has a VGA input, but its native resolution is just 800x600 pixels, so it is not really practical to use it as a monitor. This low resolution



is the screen's main problem, as it won't be able to display High Definition (HD) content in the future.

Relisys's RLT2000 has an excellent TV tuner and is capable of superb DVD picture quality provided your DVD player has a component or S-video output. However, as it can't display HD content it will be obsolete in a year's time, making it hard to recommend.

Chris Finnamore

 Good TV and DVD quality

 Problematic progressive scan support; no progressive input

SPECIFICATION 20" image, 800x600 native resolution, D-sub, composite, component, S-video and SCART inputs, 2x5W speakers. **Part code** RLT2000

HOTLIST LCD TV

ACER AL2671W

RATING ★★★★★

PRICE £563 inc VAT

SUPPLIER www.dabs.com
DETAILS www.acer.com

The Acer AL2671W has the stylish look of a flat TV, but without the expense or hassle of a full home cinema setup. It has plenty of inputs, including DVI, and a 1,280x768 resolution making it ideal for upcoming HD content. Image quality is great, and the excellent sound is provided by pseudo-surround speakers. Home cinema fans should look elsewhere, but otherwise this is a real bargain.



SPECIFICATIONS 26" image, 1,280x768 native resolution, D-sub, DVI, two SCART and RF inputs, two 5W speakers. **Part code** EV.M0107.009

HOTLIST LCD PROJECTOR

PANASONIC PT-AE700

RATING ★★★★★

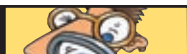
PRICE £971 inc VAT and delivery

SUPPLIER www.pixmania.co.uk
DETAILS www.panasonic.co.uk

The PT-AE700 is a home cinema projector and its native 16:9 widescreen ratio is ideal for DVD, gaming and digital TV. Every connector is provided including component, SCART and HDMI, so you can enjoy a wide range of media with excellent image clarity. It is also one of the quietest projectors we've used. Bulb life is up to 4,000 hours in low lamp mode, though this requires a fully darkened room.



SPECIFICATIONS Three 0.7" LCDs, 1,280x720 resolution, 1,000 lumens, 2000:1 contrast ratio. **Part code** PTAE700EC

CHOOSING A...


PROJECTOR

Follow our step-by-step guide to buying the perfect projector

1 Low-cost projectors make two main sacrifices. The brightness, measured in ANSI lumens, will be relatively low and the native resolution will be limited to 800x600. Neither need be serious drawbacks provided you can dim the lights or draw the blinds and there isn't a huge amount of detail in your slides. Home cinema certainly doesn't demand anything more. Movie buffs are likely to be more concerned with the lamp life and replacement cost.

2 Image quality is obviously important but hard to assess from specifications alone. A high contrast (over 500:1) ratio adds depth to the picture and is one tangible benefit of projectors based on digital light processing (DLP) rather than the older LCD technology. The quality of the optics and colour balance can't be gauged without consulting a review, though.

3 Consider where you'll be using your projector; size and weight are important if the unit will be moved around a lot. You should aim for under 3kg if portability is an issue. Small rooms demand a quiet (sub-33dB) projector and a flexible throw distance – this tells you how close or far away the screen can be. Most projectors can mirror or rotate their image to cope with ceiling mounting or rear projection.

4 Check that the projector can cope with all the signals you might want to feed it. Common video formats are supported by almost all projectors, but high-resolution VGA signals and HDMI aren't. Highly detailed slides will display at their best only on pricier projectors with a 1,024x768 native resolution.

5 Top-of-the-range projectors have 2,000 ANSI lumens brightness or more, to outshine brightly lit rooms, and a host of useful features to make presentations look and sound slicker – and make things easier for the presenter. Anti-theft features are also worth investigating.

FILL IN YOUR SPECS HERE

(Recommended minimum in grey)

NATIVE RESOLUTION: 800x600

BRIGHTNESS: 1,000 ANSI Lumens

CONTRAST RATIO: 500:1

LAMP LIFE: 2,000 hours

CHECK: Weight, throw distance, noise